

WHAT IS CLAIMED IS

1. A process for the preparation of a particle composed of a coprecipitate applied as a layer around a neutral hydrophilic carrier by spraying an organic solution over said neutral hydrophilic carrier, said solution comprising at least one active substance, one surface-active agent and one hydrophilic polymer, characterized in that the spraying of the whole of the solution is carried out in at least two separate stages, each of these stages being followed systematically by a stage of milling the product obtained on conclusion of the preceding stage.
- 15 2. The process for the preparation of the particles as claimed in claim 1, characterized in that it comprises the following stages:
 - 20 a) preparing an organic solution comprising the active substance, the hydrophilic polymer and the surface-active agent,
 - b) spraying a portion of the solution obtained in a) over the neutral hydrophilic carriers,
 - c) milling the particles obtained in stage b),
 - 25 d) spraying the remaining amount of the organic solution over the neutral hydrophilic carriers, and
 - e) final milling of the particles obtained in stage d).
- 30 3. The process for the preparation of the particles as claimed in either one of claims 1 and 2, characterized in that the spraying/milling sequence (stages b to d) is repeated one or more times.
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4. The process for the preparation of the particles as claimed in any one of claims 1 to 3, characterized in that it additionally comprises a drying stage either after each spraying stage, before milling, or immediately after the milling.
5. The process for the preparation of the particles as claimed in any one of claims 1 to 4, characterized in that the inert hydrophilic carrier is composed of any chemically and pharmaceutically inert excipient existing in the crystalline or amorphous particulate form and preferably chosen from the group consisting of sugar derivatives, celluloses and their mixtures.
15. The process for the preparation of the particles as claimed in any one of claims 1 to 5, characterized in that the hydrophilic polymer is chosen from the group consisting of polyvinylpyrrolidones, in particular polymers with a molecular weight of between 10 000 and 50 000, cellulose derivatives, preferably hydroxypropylmethylcellulose, hydroxypropyl-cellulose, hydroxymethylcellulose, hydroxypropyl-methylcellulose phthalate or hydroxypropylmethylcellulose acetate/succinate, acrylic polymers and polyethylene glycols.
25. The process for the preparation of the particles as claimed in any one of claims 1 to 6, characterized in that the surface-active agent is chosen from the group consisting of cationic, anionic, nonionic and amphoteric agents, alone or as a mixture.
30. The process for the preparation of the particles as claimed in any one of claims 1 to 7, characterized in that the organic solvent is
35. The process for the preparation of the particles as claimed in any one of claims 1 to 7, characterized in that the organic solvent is

chosen from the group consisting of ethanol, isopropanol, tetrahydrofuran, isopropyl ether, acetone, methyl ethyl ketone, methylene chloride and the mixtures of these solvents.

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9. The process for the preparation of the particles as claimed in any one of claims 1 to 8, characterized in that the spraying stages are carried out in a coating pan, in a perforated pan coater or in a fluidized bed.
10. A particle composed of a coprecipitate which is applied as a layer around a carrier and which comprises at least one active substance, one surface-active agent and one hydrophilic polymer, characterized in that it is capable of being obtained by spraying a solution comprising at least one active substance, one surface-active agent and one hydrophilic polymer, said spraying being carried out at least in two separate stages, said stages each being followed by a milling stage.
11. The particle as claimed in claim 10, characterized in that the active substance is present in the particle in a proportion which can vary between 1 and 60% by weight.
12. The particle as claimed in either one of claims 10 and 11, characterized in that the inert hydrophilic carrier is present in a proportion which can range up to 95% by weight.
13. The particle as claimed in any one of claims 10 to 12, characterized in that the hydrophilic polymer/active principle ratio by weight is between 10/1 and 1/2.

14. The particle as claimed in any one of claims 10 to 13, characterized in that the surface-active agent is present in a proportion which can vary between 0.1 and 20% by weight, with respect to the total weight obtained.
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15. The particle as claimed in any one of claims 10 to 14, characterized in that the unit particle size of the inert hydrophilic carrier can be between 50 and 500 μm , preferably between 90 and 200 μm .
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16. A pharmaceutical form, characterized in that it comprises at least one particle as claimed in any one of claims 10 to 15, optionally in combination with pharmaceutically acceptable excipients.
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